**Assignment in DSA**

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**BSIS-II**

**1. Give a brief history of Java.**

Java was developed by James Gosling and his team at Sun Computers in the early 1990s. Originally called Oak, later given the name Java. Though now often thought of as a program designed for the world wide web, it was originally meant to be a programming language for embedded systems.

**2. How is java platform independent?**

With Java, you can compile source code on Windows and the compiled code (bytecode to be precise) can be executed (interpreted) on any platform running a JVM. So yes you need a JVM but the JVM can run any compiled code, the compiled code is platform independent

**3. Differentiate JDK, JRE, and JVM.**

JRE is an acronym for Java Runtime Environment.It is used to provide runtime environment.It is the implementation of JVM.It physically exists.It contains set of libraries + other files that JVM uses at runtime.

JDK is an acronym for Java Development Kit.It physically exists.It contains JRE + development tools.

A Java virtual machine (JVM)

is an abstract computing machine that enables a computer to run a Java program. There are three notions of the JVM: specification, implementation, and instance. The specification is a document that formally describes what is required of a JVM implementation.

**4. Why is the main method declared static?**

This is necessary because main() is called by the JVM before any objects are made. Since it is static it can be directly invoked via the class. Similarly, we use static sometime for user defined methods so that we need not to make objects.

**5. Is Java purely object-oriented? Explain.**

Java is not because it supports Primitive datatype such as int, byte, long... etc, to be used, which are not objects.